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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,459	03/26/2001	Fritz Schwertfeger	HOE96/F319CON	1602

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02/10/2006

Martha Ann Finnegan  
Chief Intellectual Property Counsel, Cabot Corp.  
Billerica Technology Center  
157 Concord Avenue  
Billerica, MA 01821-7001

EXAMINER
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METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/817,459

Applicant(s)

SCHWERTFEGER ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 1 Aug & 21 Nov 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4,6,7,56-59,62,63,67-69,71,76,77,79-115 and 117-119 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4,7,56,57,59,62,63,67,68,76,77,79-95,97-99,101-111,113-115,117 and 119 is/are allowed.
- 6) ☒ Claim(s) 6,58,71,96,100 and 112 is/are rejected.
- 7) ☒ Claim(s) 69 and 118 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 2-4, 6-7, 56-59, 62-63, 67-69, 71, 76-77, 79-115 and 117-119 are pending.

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 1, 2005 has been entered.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 6, 58, 71, 96, 100, and 112 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 6 and 71, "the gel" lacks proper antecedent basis. It is unclear whether applicants are referring to "the organically modified aerogel", "the silicatic hydrogel", or "the hydrophobic surface-modified gel".

Claim 58 is indefinite since it is unclear what the acid is added to pH  $\geq$  8. It is unclear what this pH value refers. If applicants are defining the pH of the waterglass,

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said limitation should explicitly set forth “lowering the pH of an aqueous waterglass solution **from a pH  $\geq$  8 to** establish the pH between pH 3 and pH 8”, emphasis added.

Claims 96, 100, and 112 are indefinite because the steps of “drying of the surface of the hydrogel” (96) and “reacting prior to silylating” (100, 112) are inconsistent with applicants’ definition of “hydrogel” at page 6, lines 29-34:

By a hydrogel in the present application is meant a gel which is in dispersion in at least one solvent, the liquid phase containing at least 50% by weight, preferably at least 80% by weight, with particular preference at least 90% by weight and, in particular, at least 98% by weight water. A hydrogel is thus a special case of a lyogel, i.e. a gel which contains a liquid. (Emphasis added).

The claim 96 or 100 limitations are would not be in dispersion or containing a liquid of at least 50 % by weight water as the liquid phase. The limitation of claims 100 and 112 would result in a “surface-modified gel”, which would preclude the following step b), modifying the surface of “the hydrogel obtained in step a)” by mixing “the hydrogel” with a silylating agent.

### ***Double Patenting***

4. Claim 118, dependent on claim 56, is objected to under 37 CFR 1.75 as being a substantial duplicate of independent claim 57.

Claim 69, dependent on claim 68, is objected to under 37 CFR 1.75 as being a substantial duplicate of independent claim 67, dependent on claim 62. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing

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one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

***Allowable Subject Matter***

5. Claim 2-4, 7, 56-57, 59, 62-63, 67-68, 76-77, 79-95, 97-99, 101-111, 113-115, 117 and 119 allowable over the prior art.

6. The following is an examiner's statement of reasons for allowance: the prior art does not disclose or fairly suggest the claimed methods of making aerogels and lyogels by mixing a hydrogel with a silylating agent, wherein said hydrogel has been explicitly defined as a gel which is in dispersion in at least one solvent, the liquid phase containing at least 50% by weight water. Attention is directed to page 6, lines 29-34, of the instant specification.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Response to Arguments***

7. Applicant's arguments with respect to claims 2-4, 6-7, 56-58, 62-63, 67-69, 71, 76-77, 79-115 and 117-119 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicants' response obviated the rejections of the prior Office Action.

9. The Obviousness Double Patenting has been withdrawn in view of the explicit definition of hydrogel set forth at page 6, lines 29-34; of the instant specification. Also,

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reproduced above. Since the copending process removes the water from the lyogels prior to silylating, said step distinguishes the claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Daniel S. Metzmaier  
Primary Examiner  
Art Unit 1712

DSM